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ABSTRACT

As of December 1995, at least 28 federal programs administered by 15 federal agencies provided funds that either were specifically designated for telecommunications projects in rural areas or could be used for that purpose. Interviews with community leaders and rural development experts identified specific actions that must be taken to lay the foundation for establishing rural telecommunications projects. Communities should develop an understanding of telecommunications technologies and their potential benefits; engage in long-term planning to determine the feasibility of their project; and build partnerships among federal and state officials, telephone carriers, utilities, Internet providers, and potential beneficiaries such as hospitals and schools. Federal telecommunications programs need to change in several areas: (1) educating rural communities on the potential benefits of telecommunications technologies, (2) building in requirements for considering telecommunications technologies in long-range planning, and (3) making the multiple federal programs easier to use. The planning and coordination aspects of the Federal Agriculture Improvement and Reform Act of 1996, as well as changes to strategic planning guidelines contemplated by the Economic Development Administration, should help address these problems. Appendices include the 28 federal programs that fund telecommunications projects, detailed descriptions of 5 telecommunications projects in rural areas, and 5 national organizations representing rural areas. (TD)

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United States General Accounting Office

GAO

Report to the Committee on Agriculture, Nutrition, and Forestry, U.S. Senate

June 1996

RURAL DEVELOPMENT

Steps Towards Realizing the Potential of Telecommunications Technologies

ED 400 139

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United States
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Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-271609

June 14, 1996

The Honorable Richard G. Lugar
Chairman
The Honorable Patrick J. Leahy
Ranking Minority Member
Committee on Agriculture,
Nutrition, and Forestry
United States Senate

For many rural areas, social and economic vitality hinges on overcoming the problems posed by remoteness from urban centers—such as the lack of easy access to advanced education, medical knowledge, and enterprise development opportunities. While improved roads were once seen as the key to rural areas' overcoming the barrier of distance, experts now believe that sophisticated use of telecommunications technologies may be a critical element in many rural areas' efforts to maintain and foster social and economic development. Advanced telecommunications technologies—the Internet, videoconferencing, and high-speed data transmission—offer some rural areas the chance to overcome the problems they face as a result of their geographic isolation. These technologies can link rural areas with other communities and expertise to improve medical services, create new jobs, and increase rural residents' access to education.

In October 1995, you asked us to (1) identify federal programs that rural areas can use to fund telecommunications projects, (2) identify lessons learned by rural areas that have used these programs to establish such projects, and (3) obtain the views of experts, public and private officials, and program users on whether changes to these programs are needed.

Results in Brief

As of December 1995, at least 28 federal programs administered by 15 federal agencies provided funds that were either specifically designated for telecommunications projects in rural areas or could be used for that purpose. For example, the U.S. Department of Agriculture's Rural Utilities Service, which funds telecommunications infrastructure in many rural areas, also provides grants to link rural health care clinics with larger hospitals to better serve rural residents. With such linkages, the larger hospital can review X-rays, CAT scans, and other medical evidence to diagnose an illness and prescribe treatment without having the patient make long, and sometimes difficult, trips to the larger institution.

The communities sponsoring the five rural telecommunications projects we visited and the rural development experts we spoke with identified three specific actions that must be taken to lay the foundation for establishing telecommunications projects in rural areas. First, communities should develop a basic understanding of telecommunications technologies and their potential benefits. Second, communities should develop strategic plans to determine the technical and financial feasibility of telecommunications development. Finally, community officials need to build partnerships among the key players—federal and state officials; telephone carriers; utilities; Internet providers; and potential beneficiaries, such as hospitals and schools.

Rural development experts and public officials we interviewed suggested that federal telecommunications programs collectively needed to change in several areas: (1) educating rural communities on the potential benefits of telecommunications technologies, (2) building in requirements for considering telecommunications technologies in long-range planning, and (3) making the multiple federal programs easier to use. Currently, federal telecommunications programs do not generally focus on educating the general public about the potential benefits of telecommunications. Officials informed us that rural communities could benefit from such an outreach effort, but most of the federal agencies we reviewed told us that they lack the resources required to advise communities to consider telecommunications technologies in their long-range comprehensive plans. Finally, the number and complexity of the federal programs available for telecommunications assistance make them difficult for rural areas to identify and use.

The planning and coordination aspects of the Federal Agriculture Improvement and Reform Act of 1996 (P.L. 104-127, Apr. 4, 1996), as well as changes to strategic planning guidelines contemplated by the Economic Development Administration, should help address these problems.

Background

The federal government has long played an important role in promoting the economic vitality of rural America—from supporting agriculture to building rural infrastructure, such as the electrification of rural America in the 1930s. More recently, since 1983, the federal government has funneled over $15.5 billion to rural areas for such activities as small business assistance, industrial development, and economic planning. In addition, rural areas receive federal funds that are not specifically targeted to economic development but that nevertheless influence rural economic

development, such as agricultural payments, infrastructure assistance, and job training.

The U.S. Department of Agriculture (USDA) has primary federal responsibility for rural development and provides leadership within the executive branch for coordinating federal programs, services, and actions affecting rural areas. Other federal agencies, such as the Department of Commerce's Economic Development Administration (EDA) and the Department of Housing and Urban Development, also provide assistance for economic and other types of development to rural communities. Finally, independent federal agencies—such as the Appalachian Regional Commission, Small Business Administration, and the Tennessee Valley Authority—provide assistance in rural areas.

To facilitate the delivery of assistance through the programs that these agencies administer, USDA has promoted the development of the National Rural Development Partnership (NRDP), whose objective is to promote collaboration, innovation, and strategic approaches among federal and state agencies involved in rural development. NRDP's members include the National Rural Development Council and State Rural Development Councils. The national council is composed of senior program managers from over 40 federal agencies and representatives of public interest, community, and private organizations. State councils, which have been established in 39 states, are composed of representatives from federal, state, and local governments, tribal councils, and the private sector.

Despite the range of federal assistance, many rural areas continue to face distinct barriers to social and economic development.[1] One of these barriers, remoteness from population centers, means that rural areas may find it difficult to attract many services—such as access to advanced medical care and higher education—that are available in or near population centers and may offer fewer job opportunities than urban areas.

Increasingly, telecommunications technologies are seen as a way to overcome the problems posed by distance, according to rural development experts. For example, some communities are using interactive videoconferencing to provide medical consultations. Some colleges and schools are offering classes, and even degree programs, to students on-line in remote locations. Large businesses have found it cost-effective to establish or maintain branch offices in rural areas by using

[1]See Rural Development: Rural America Faces Many Challenges (GAO/RCED-93-95, Nov. 20, 1992).

videoconferencing or on-line access to hold meetings and conduct business.

In February 1996, the Congress enacted the Telecommunications Act of 1996 (P.L. 104-104, Feb. 8, 1996), the first major overhaul of telecommunications law in over 60 years. The new law, which includes important provisions promoting the use of advanced telecommunications in rural America, seeks to preserve and advance the concept of universal service, defined generally as an evolving level of telecommunications service. The preservation and advancement of universal service is to be based on seven principles, including the availability of advanced services in all regions of the nation and access to services in rural and high-cost areas. The act also establishes the Telecommunications Development Fund, which, among other things, is to support universal service and promote the delivery of telecommunications services to underserved rural and urban areas.

Multiple Federal Programs Directly or Indirectly Provide Telecommunications Assistance

At least 28 federal programs in 15 agencies provide funding for telecommunications programs. Of the 28 programs, 13 are specifically designed to support telecommunications projects, although not necessarily for rural areas. The remaining 15 programs have more general economic development purposes but can be used for telecommunications efforts. In fiscal year 1995, the 13 telecommunications programs provided about $715.8 million for about 540 projects. Programs ranged from the Rural Utilities Service's rural telephone loan programs ($585 million combined), which are designed to ensure that rural areas have telephone service comparable with urban areas', to the Department of Health and Human Service's (HHS) Health Care Financing Administration's Research, Demonstration, and Evaluation Program ($0.5 million), which funds, among other things, innovative projects that use telecommunications technologies to improve medical access and care. Table 1 lists the 13 telecommunications-related programs, their funding levels, and the other types of activities they support.

Table 1: Thirteen Programs That Support Telecommunications-Related Projects

Dollars in millions

Department and/or agency	Program	FY 1995 funds	Type and purpose of assistance
USDA—Rural Utilities Service[a]	Rural Telephone Loans and Loan Guarantees	$410.0	Long-term loans to improve rural telecommunications infrastructure
	Rural Telephone Bank Loans	175.0	Long-term loans to the Rural Utilities Service's borrowers
	Distance Learning and Medical Link	7.5	Grants for rural areas to use telecommunications in schools or to improve medical care
USDA—Cooperative State Research, Education, and Extension Service	Agricultural Telecommunications Program	0.9	Grants for an agricultural communications network
Department of Education—Office of Educational Research and Improvement	Star Schools Program	25.0	Grants for statewide or multistate distance learning projects
	Challenge Grants for Technology in Education	9.5	Grants for distance learning
	Telecommunications Demonstration Project for Mathematics	1.1	Grants to improve mathematics instruction through telecommunications
HHS—Health Care Financing Administration	Research, Demonstration, and Evaluation Projects	0.5	Grants for using telecommunications to improve medical care
HHS—Office of Rural Health Policy	Rural Telemedicine Grants	5.1	Grants for using telecommunications to improve medical care in rural areas
National Science Foundation	Networking Infrastructure for Education	11.7	Grants or cooperative agreements to use technology to improve education
	Connections to the Internet	5.8	Grants to colleges and universities for connecting to the Internet
Department of Commerce—National Telecommunications and Information Administration	Public Telecommunications Facilities Planning and Construction Grants	27.7	Grants for public broadcasting projects
	Telecommunications and Information Infrastructure Assistance Program	36.0	Grants to promote use of advanced telecommunications technologies
Total		**$715.8**	

[a]The Federal Agriculture Improvement and Reform Act of 1996 made substantial changes to USDA's rural development authorities that will affect funding for, among other things, telecommunications projects. For example, the act authorizes the Distance Learning and Telemedicine Loan Program (replacing and expanding the Distance Learning and Medical Link Grant Program) at $100 million annually. The act also establishes a Rural Community Advancement Program under which some federal assistance may be used for telecommunications activities.

The other 15 programs we identified that can be used for telecommunications projects are intended to support a range of community assistance projects. For example, the Department of Housing and Urban Development provides Community Development Block Grants to communities for development purposes, while the EDA provides grants to communities for public works and infrastructure development. In addition, HHS' Office of Rural Health Policy supports the Rural Health Services Outreach Program, which, among other things, can be used to provide better access to health care through telecommunications technology. (See app. I for more detailed information on all 28 programs.)

Communities Identified Three Steps for Developing a Telecommunications Project

Officials in five rural communities that have obtained federal funds for telecommunications projects identified three key actions for putting telecommunications projects into place:[2] (1) developing a basic understanding of the potential benefits of telecommunications technologies; (2) engaging in long-term planning to determine the need for, and ensure the technical and financial feasibility of, their project; and (3) building partnerships among the key players who would be needed to support and/or benefit from the project. The representatives of the State Rural Development Councils and representatives of rural associations, such as the National Association of Development Organizations (NADO) and National Association of Regional Councils, confirmed the importance of these actions.

Developing a Basic Understanding

In examining options to address a particular problem in their rural communities, officials at all of the projects we visited identified telecommunications as a possible solution. They all agreed, however, that they had to develop a basic understanding of telecommunications technologies before they could evaluate their usefulness in solving their problem.

For example, a consortium of mental health officials in eastern Oregon were seeking ways to reduce the risk, expense, and time involved in transporting individuals who might be committed to mental health facilities to and from various types of court hearings and psychiatric evaluations. Once they learned about various telecommunications

[2]The projects we visited in five rural communities are the Ringgold, Georgia, Telephone Company; the Mayfield, Kentucky, Rural Telecommunications Resource Center; the Eastern Oregon RODEONET Project; the Paducah, Kentucky, Information Age Park; and the Spokane, Washington, Satellite Telecommunications Educational Programming (STEP)/Star Network. These projects, which all received federal funding, are discussed in greater detail in app. II.

technologies and the ways in which the technologies could help them deliver mental health services, these officials identified video teleconferencing as a alternative to repeatedly transporting patients across long distances. They developed the RODEONET project, which has 14 sites in eastern and southern Oregon. Similarly, in Kentucky, the Chief Executive Officer and Chairman of the Greater Paducah Economic Development Council told us that he first became interested in the potential of an information age park to bring economic opportunities to his community when he attended a telecommunications conference in 1989 that was sponsored by a telephone company. An information age park is an office park that, by concentrating state-of-the-art telecommunications—such as videoconferencing, high-speed data transfer, and computer networking—could attract a host of new industries, such as credit card centers and telemarketers. After studying the technology, he and the Greater Paducah Economic Development Council asked for assistance from the local carrier to determine the feasibility of a project.

Most representatives of the 15 State Rural Development Councils, NADO, and many other experts on rural development underscored the importance of gaining a basic understanding of telecommunications technologies as a first step in using them. Furthermore, NADO, as well as others, reported that rural communities need reliable, centralized information on the use of telecommunications.

Engaging in Long-Term Planning for the Project

Officials for all of the projects we visited developed long-term plans to ensure the technical and financial feasibility of their project. For example, the director of the Paducah Information Age Park, told us that, in 1990, the Greater Paducah Economic Development Council formally requested a carrier's assistance to identify and quantify the potential economic benefits of developing such a park for use as a resource in recruiting information-intensive, high-technology industries.

In March 1991, project officials and their partners conducted a study to determine if information age business parks might be economically feasible in nonmetropolitan areas, such as Paducah, Kentucky. The study concluded that the proposed site would be a suitable location to develop a "micropolitan" information park. Planning for the project's funding involved multiple participants. Total funds of $21 million were secured through investments from individuals and private businesses as well as state and federal loans and grants from the state of Kentucky and the

Tennessee Valley Authority. In addition, the city government granted certain zoning concessions.

Building Partnerships Among Key Players

According to officials of all of the projects we visited and the 15 State Rural Development Councils we spoke with, partnership building is critical to the successful creation and continued operations of telecommunications projects. Partnership building involves bringing together the key players, such as telephone companies, anticipated users, and government officials at all levels.[3]

For example, the Spokane, Washington, STEP/Star Network, which develops, produces, and broadcasts education programs for credit, primarily at the high school level, relies on its relationships with the school districts, teachers, students, states, private businesses, and government. Further demonstrating the value of a strong partnership, in fiscal year 1994, the project received about $2 million from users and other local sources. In January 1994, the STEP/Star Network joined forces with other education broadcasters to create a new, much larger network. With the new network, the STEP/Star Network and other providers share programming, which greatly increases the course offerings to their subscribers.

In commenting on a draft of this report, USDA officials reemphasized the importance of partnership building in developing telecommunications capabilities. They further explained that USDA actively encourages partnership building by those rural communities seeking the Rural Utilities Service's assistance, but any rural community interested in using telecommunications as a rural development tool should include its local carrier in its partnership.

[3]Similarly, as we reported in March 1996, the experiences of three statewide telecommunications projects illustrate the importance of building and maintaining consensus among the parties that will be involved in constructing, financing, and using advanced telecommunications networks. See Telecommunications: Initiatives Taken by Three States to Promote Increased Access and Investment (GAO/RCED-96-68, Mar. 12, 1996).

Experts Reported That Changes in Telecommunications Programs Could Make Them More Useful to Rural Areas

Rural development experts and public officials we interviewed suggested three ways to improve federal programs providing telecommunications assistance: (1) educating rural communities on the potential benefits of telecommunications technologies, (2) building in requirements for considering telecommunications technologies in long-range planning, and (3) making the multiple federal programs easier to use.

Educating Rural Communities About Telecommunications

Although at least 28 federal programs are available to help communities improve their telecommunications capabilities, these programs offer only limited outreach aimed at educating rural communities about the potential of advanced telecommunications for development, according to most of the program and rural development officials we spoke with. Instead, the programs generally offer technical assistance to communities that have already received approval and funding for a particular project.

All of the experts we spoke with and the studies we reviewed pointed out that many rural areas do not have a full understanding of the development opportunities that the new technologies offer. For example, the Executive Director of the Missouri Rural Opportunities Council told us that her experience with residents and business people in rural midwestern communities showed that they have had limited exposure to telecommunications technologies and do not understand their potential benefits. She believes that better education, training, and overall exposure to these technologies are needed by rural areas.

Most of the federal telecommunications program officials agreed that all rural areas should receive information and training in the uses of telecommunications technologies. They also agreed that providing this information and training was a valid federal role but that they lacked the staff and resources to provide such outreach.

Building Telecommunications Into Long-Range Planning

The federal programs that provide telecommunications assistance require plans for the projects they fund, but most of the officials again reported a lack of resources to actively encourage all rural areas to consider telecommunications infrastructure as a component in their comprehensive, locally based economic development plans. According to a number of rural development officials we spoke with, many rural areas

have not considered telecommunications in their long-term strategic planning.

Telecommunications technologies should at least be considered in communities' long-range plans, according to the federal officials and rural development experts we spoke to. In some instances, requiring such consideration is being contemplated. For example, the Director of the EDA's Planning Division confirmed that although the agency recognizes telecommunications as a high-priority item, the agency's current guidelines for producing an economic development plan do not require including telecommunications. As we pointed out to the Director, these guidelines were last updated in 1992, and he agreed it is time for them to be updated again, and to include telecommunications issues. If such a change were implemented, 315 economic development districts across the nation, each encompassing multiple counties, would be coached to consider telecommunications technologies in their long-term strategic planning.[4] The National Association of Regional Councils informed us that communities have economic development plans that do not include consideration of telecommunications technologies because the plans were developed before these technologies were fully recognized as a potentially important tool for rural areas.

The Federal Agriculture Improvement and Reform Act of 1996 may also encourage rural communities to consider telecommunications technologies, depending on how the act is implemented. The act requires the Secretary of Agriculture to direct all of the Directors of Rural Economic and Community Development State Offices to prepare a 5-year strategic plan for their states. They are to work closely with state, local, private, and public persons, State Rural Development Councils, Indian tribes, and community-based organizations in preparing the plan. Once the plan is established, financial assistance for rural development is to be provided only for orderly community development that is consistent with the state's strategic plan. The Deputy Under Secretary for Rural Development told us that USDA will encourage all rural areas to consider including telecommunications projects in their long-term strategic plan, which will be included in the state plan. He also stressed that others involved in the plan development process, including the State Rural Development Councils, are very strong advocates of using telecommunications technologies as a rural development tool and will encourage rural areas to consider these technologies in their plan.

[4]Economic development districts include both urban and rural counties. However, not all rural areas are covered by an economic development district.

Making Federal Programs Easier to Use

As we previously reported, federal programs providing assistance to rural areas are difficult to identify, understand, and use.[5] This is also the case for telecommunications programs, according to all of the officials of the State Rural Development Councils we spoke with. For example, the Director of the Montana State Rural Development Council told us that with the exception of grants given by the Rural Utilities Service to telephone companies, most of that state's rural planners do not have the expertise to obtain access to federal grants. In Montana, the applications submitted typically come from grant writers located at universities and other centers of expertise. Similarly, the Executive Director of the Iowa Rural Development Council told us that assistance programs tend to go to organizations like the universities. While the universities have some good project ideas, Council officials said, they do not always consider the local needs of rural America.

Better coordination of federal programs would also help rural communities, according to officials we spoke with. For example, the Executive Director of the Colorado Rural Development Council told us that rural communities would benefit if the plethora of federal telecommunications programs could be coordinated because currently a full-time grant writer must spend much of his time tracking all the programs. She also said that given the extremely limited capacity of most small rural communities to access this type of technical assistance, most are effectively eliminated from applying for any of the grant programs. However, these are the same communities that would benefit the most from such assistance. Similarly, the National Association of Regional Councils told us that the federal government needs to pull these programs together to ensure consistent, readily understandable, and accessible assistance.

The Federal Agriculture Improvement and Reform Act of 1996 emphasizes the need to better coordinate federal programs, requiring the Secretary of Agriculture to provide leadership within the executive branch and establish an interagency working group to be chaired by the Secretary. The working group is to establish policy for, coordinate with, make recommendations with respect to, and evaluate the performance of all federal rural development efforts. The conference report for the act noted that the NRDP should continue its role in monitoring and reporting on policies and programs that address the needs of rural America. The State

[5]Rural Development: Patchwork of Federal Programs Needs to Be Reappraised (GAO/RCED-94-165, July 28, 1994).

Rural Development Councils, which are members of the NRDP, are to continue to act as the conduit of information to the partnership.

Agency Comments

We provided USDA a draft copy of this report for its review and comment because USDA is responsible for the federal involvement in rural development. For all other agencies and organizations that provided input to this report, we provided relevant sections of the draft report that either dealt with information they had provided to us or that we synthesized from data obtained both from them and other respondents.

We met with USDA officials to obtain their comments, both on the programs discussed in this report and on policies relating to rural development. These officials included the Deputy Administrator of the Rural Utilities Service and representatives of the Office of the Under Secretary for Rural Development. The officials agreed with the report and provided several additional clarifying comments, which we have incorporated into this report as appropriate.

In commenting on the draft report, the USDA officials also said that it was important to recognize the recent changes to rural telecommunications programs made by the Federal Agriculture Improvement and Reform Act. Specifically, they noted that the Act authorized $100 million for loans under the Distance Learning and Telemedicine Loan Program. They said this will result in a real cost to the government of $1 million, representing interest-rate subsidies, some general and administrative expenses, and allowance for bad debt. The officials also stressed that many rural areas lack the basic infrastructure needed for advanced telecommunications and that the Rural Utilities Service will continue its mission of meeting the needs of rural America.

Officials from the other agencies and organizations that responded to our request for comments agreed with the facts presented in the report and, in some cases, provided clarifying information that we considered and incorporated as appropriate in preparing our final report.

Scope and Methodology

In developing information for this report, we identified the federal agencies and programs offering telecommunications assistance to rural areas by searching the June 1995 Catalog of Federal Domestic Assistance. Our search covered all programs that offer grants, loans, or technical assistance to rural areas for planning, constructing, expanding,

demonstrating, and/or operating advanced telecommunications projects for rural development. We reviewed documents describing these programs and met with program officials at their headquarters offices in Washington, D.C., and in Knoxville, Tennessee, to learn about the programs' operations. We obtained fiscal year 1995 funding amounts from agency officials. We did not independently verify this information.

We judgmentally selected for site visits five telecommunications projects that received federal funds. We met with project officials and reviewed documents to learn how these projects were developed and are currently operating and what lessons officials had learned from these projects. For each project selected, we developed a description and identified the source of funds for the project. These projects are the Ringgold, Georgia, Telephone Company; the Mayfield, Kentucky, Rural Telecommunications Resource Center; the Eastern Oregon RODEONET Project; the Paducah, Kentucky, Information Age Park; and the Spokane, Washington, STEP/Star Network. These projects are discussed in greater detail in appendix II.

To gain further insight into the lessons learned by other rural areas using the federal programs and to identify any changes needed, we reviewed relevant studies by the Aspen Institute, the National Governors Association, the National Association of Development Organizations, the Organization for the Protection and Advancement of Small Telephone Companies, the National Association of Regional Councils, the American Academy of Political and Social Science, USDA's Economic Research Service, the Rural Policy Research Institute, and the Office of Technology Assessment.

To obtain the state perspective on telecommunications technologies in rural communities, we spoke with a group of officials from 15 State Rural Development Councils through a conference call arranged by the National Rural Development Partnership Office at our request. These officials were in Alaska, Colorado, Florida, Idaho, Iowa, Massachusetts, Minnesota, Missouri, Montana, Nebraska, Ohio, Texas, Washington, Wisconsin, and Wyoming.

To obtain a grassroots perspective, we requested NADO, the National Association of Regional Councils, and the Organization for the Protection and Advancement of Small Telephone Companies to solicit the views of their members on the same issues discussed with state officials. (See app. III for a brief description of these organizations.)

We conducted our review from August 1995 through May 1996 in accordance with generally accepted government auditing standards.

We are sending copies of this report to the House Committee on Agriculture; other appropriate congressional committees; the Secretary of Agriculture; and federal and state agencies with responsibility for telecommunications technologies in rural areas.

If you or your staff have any questions about this report, I can be reached at (202) 512-5138. Major contributors to this report are listed in appendix IV.

Robert A. Robinson
Director, Food and
Agriculture Issues

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Abbreviations

ARC	Appalachian Regional Commission
EDA	Economic Development Administration
ESD	educational service district
GAO	General Accounting Office
GPEDC	Greater Paducah Economic Development Council
HCFA	Health Care Financing Administration
HHS	Department of Health and Human Services
LEA	local educational agency
NADO	National Association of Development Organizations
NRDP	National Rural Development Partnership
NSF	National Science Foundation
PADD	Purchase Area Development District
RUS	Rural Utilities Service
SEA	state educational agency
STEP	Satellite Telecommunications Educational Programming
TVA	Tennessee Valley Authority
USDA	U.S. Department of Agriculture

Federal Programs That Can Be Used for Telecommunications Projects

This appendix presents detailed information on the 28 federal programs we identified that are either designed to support telecommunications projects or that can be used for that purpose. This information was principally obtained from the June 1995 Catalog of Federal Domestic Assistance. We confirmed the budget information with appropriate program officials but did not independently verify the information.

Programs That Are Designed to Support Telecommunications Projects

Thirteen programs we identified are designed to provide funding for telecommunications projects.

U.S. Department of Agriculture

The Department has four programs that directly support telecommunications projects.[6]

The Agricultural Telecommunications Program, supported by the Cooperative State Research Education and Extension Service, awards grants to eligible institutions to assist in the development and utilization of an agricultural communications network to facilitate and strengthen agricultural extension, residents' education, and research, and domestic and international marketing of U.S. commodities and products through a partnership between eligible institutions and the Department. The network employs satellite and other telecommunications technologies to disseminate and share academic instruction, cooperative extension programming, agriculture research, and marketing information.

Types of assistance. Project grants.

Funding levels. This program was initially funded in fiscal year 1992. Funding levels remained constant at $1.22 million through fiscal year 1995.

Eligibility criteria. Applicants must demonstrate that they will (1) make optimal use of available resources for agricultural extension, residents' education, and research by sharing resources between participating institutions; (2) improve the competitive position of U.S. agriculture in international markets by disseminating information to producers, processors, and researchers; (3) train students for careers in agriculture and food industries; (4) facilitate interaction among leading agricultural scientists; (5) enhance the ability of U.S. agriculture to respond to

[6]The changes made under the recently enacted Federal Agriculture Improvement and Reform Act are not reflected in the information presented in this appendix.

environmental and food safety concerns; and (6) identify new uses for farm commodities and increase the demand for U.S. agricultural products in both domestic and foreign markets. Proposals are invited from accredited institutions of higher education.

Intended beneficiaries. Institutions of higher education, state and local governments, private organizations or corporations, and individuals.

Examples of funded projects. One project is to develop and deliver a model program for staff and faculty training in agricultural distance learning at 13 land grant universities. In another project, six land grant universities will develop a network training concept to improve the dissemination and sharing of academic instruction, extension programming, and research activities.

Rural Telephone Loan and Loan Guarantees, in the Rural Utilities Service (RUS), has as its objective ensuring that people in eligible rural areas have access to telecommunications services comparable in reliability and quality with the rest of the nation.

Types of assistance. Direct loans.

Funding levels. Cost-of-money[7] loans totaled $186.4 million in fiscal year 1991, rose to $311.03 million in fiscal year 1993, and fell to $242.35 in fiscal year 1995. The total loans guaranteed remained fairly constant at $120 million, from fiscal year 1991 to fiscal year 1995. Funding for hardship loans became a distinct funding category in fiscal year 1994. Fiscal year 1994 funding was $70.34 million and fiscal year 1995, $69.5 million. While the funding levels varied from year to year, this reflects the amount of funding (budget authority) provided by the Congress, not the number of applications received; in each year, more applications were received than could be funded.

Eligibility criteria. Telephone companies or cooperatives, nonprofit associations, limited dividend associations, mutual associations or public bodies, including those located in the U.S. territories, are eligible for this program.

Intended Beneficiaries. Residents of rural areas and others who may also receive telephone service as a result of service provided to a rural area.

[7]RUS makes concurrent cost-of-money and rural telephone bank loans (to be discussed later) to finance the improvement, expansion, construction, and acquisition of systems or facilities (unless otherwise excluded).

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Examples of funded projects. Since 1992, loans have been made to RUS borrowers to finance over $368 million in projects for fiber optic cable, over $350 million for digital switching equipment, $70 million for advanced telecommunications features, and $14 million for distance learning.

Rural Telephone Bank Loans (Rural Telephone Bank), under RUS, is designed to provide supplemental financing to extend and improve telecommunications services in rural areas.

Types of assistance. Direct loans.

Funding levels. The program made loans totaling $177.0 million in fiscal year 1991, $199.85 million in fiscal year 1994, and $175 million in fiscal year 1995.

Eligibility criteria. Eligible recipients are borrowers, including those located in the U.S. territories, or possessions that have received a loan or loan commitment under section 201 of the Rural Electrification Act or that have been certified by the Administrator as qualified to receive such a loan.

Intended beneficiaries. Residents of rural areas and others who receive telecommunications service resulting from service provided to rural areas.

Examples of funded projects. Since 1992, loans have been made to RUS telephone borrowers to finance over $368 million for fiber optic cable, over $350 million for digital switching, $70 million for advanced telecommunications features, and $14 million for distance learning equipment.

Distance Learning and Medical Link Grants, provided by RUS, are intended to encourage and improve the use of telecommunications, computer networks, and related advanced technologies to provide educational and medical benefits to people living in rural areas.

Types of assistance. Project grants.

Funding levels. Funding for fiscal years 1993 and 1994, the first 2 years that grants were awarded, was $10.0 million each year. The program's funding level was reduced to $7.50 million in fiscal year 1995.

Eligibility criteria. Eligible recipients include organizations such as schools, libraries, hospitals, medical centers, or similar organizations that will be users of a telecommunications, computer network, or related advanced technology system to provide educational and/or medical benefits to rural residents. The applicant must not be delinquent on any federal debt.

Intended beneficiaries. Rural communities will benefit, particularly in the areas of health care and education.

Examples of funded projects. The program has supported a network to link rural hospitals and health care clinics with urban tertiary care centers to provide rural residents with continuous access to trauma and emergency care. It has also sponsored a system to provide 37,000 rural residents—including students, patients, and other residents—with access to the Iowa Communications Network for educational and medical services.

Department of Education

The Department has three programs that directly support telecommunications projects.

The Star Schools Program encourages improved instruction in mathematics, science, and foreign languages, as well as other subjects, such as literacy skills and vocational education. Grants are made to eligible telecommunications partnerships to enable them to (1) develop, construct, acquire, maintain, and operate telecommunications audio and video facilities and equipment; (2) develop and acquire educational and instructional programming; and (3) obtain technical assistance for the use of such facilities and instructional programming.

Type of assistance. Project grants.

Funding levels. The program's funding has increased from $14.4 million in fiscal year 1991 to $25 million in fiscal year 1995.

Eligibility criteria. Eligible telecommunications partnerships must be organized on a statewide or multistate basis. Two types of partnerships are eligible. One type is a public agency or corporation established to develop and operate telecommunications networks to enhance educational opportunities provided by educational institutions, teacher training

centers, and other entities. The agency or corporation must represent the interests of elementary and secondary schools eligible to participate under title 1 of the Elementary and Secondary Education Act of 1965, as amended. The second type is a partnership of three or more agencies, such as a state educational agency, a local educational agency that serves certain types of students, an institution of higher education or a state higher education agency, a teacher training center, an adult or family education program, a public or private elementary or secondary school, a telecommunications entity, or a public broadcasting entity. At least one of the partners must be an eligible local educational agency or state educational agency.

Intended beneficiaries. The program serves underserved populations, including those who are disadvantaged or illiterate, as well as those who have disabilities or limited proficiency in English.

Examples of funded projects. In fiscal years 1994 and 1995, Star Schools funded 13 projects totaling approximately $50.9 million. For example, the College of Eastern Utah received grants totaling $4.4 million to develop state-of-the-art studios and linked classrooms to improve the delivery of education services to the Four Corners area of the Southwest. The project is aimed at rural and Native American populations. The Pacific Mountain Network received $741,000 to develop eight 30-minute video modules focusing on distance learning and education reform, to screen distance learning resources, and to provide background information on technology's role in education.

Challenge Grants for Technology in Education provide support to consortia that are using new applications of technology to strengthen the school reform effort, improve the content of the curriculum, increase student achievement, and provide sustained professional development for teachers and others who are employing new applications of technology to improve education.

Types of assistance. Project grants (discretionary).

Funding levels. The program was originally appropriated $27 million for fiscal year 1995, its first year of operation. However, the Congress later reduced the appropriated amount to $9.5 million for the year. Challenge grants are for 5-year projects. Each project will receive an initial 15-month budget from combined fiscal year 1995-96 appropriations.

Eligibility criteria. Consortia must include at least one local educational agency (LEA) with a high percentage or number of children living below the poverty line and may include other LEAs, state educational agencies, institutions of higher education, businesses, academic content experts, software designers, museums, libraries, or other appropriate entities.

Intended beneficiaries. Elementary and secondary education students, teachers, administrators, and school library media personnel benefit from the program.

Examples of funded projects. The program funded 19 projects in its first year. For example, the program provided funds to Westside Community Schools and the Nebraska Consortium for Discipline-Based Art Education to use telecommunications and digital technology to link urban and rural schools to the art collections of five major museums across the country. The program also funded the state of Utah Resource Web to use telecommunications to provide quality educational opportunities in low-income, rural, and culturally disenfranchised communities.

Telecommunications Demonstration Project for Mathematics carries out a national telecommunications-based demonstration project to improve the teaching of mathematics.

Types of assistance. Project grants.

Funding levels. In fiscal year 1995, the first year of the program, $1.1 million was appropriated.

Eligibility criteria. State educational agencies (SEA), LEAs, nonprofit telecommunications entities, or partnerships with these entities may apply.

Intended beneficiaries. Those benefiting from the program include elementary and secondary school teachers of mathematics and schools of LEAs having a high percentage of children who are counted for the purpose of part A, title 1, of the Elementary and Secondary Education Act of 1965, as amended.

Examples of funded projects. One grant was awarded in fiscal year 1995 to the Public Broadcasting Service for an elementary component of PBS Mathline. The project will provide video modules and on-line resources for teachers of mathematics in more than 30 states across the country.

Department of Health and Human Services

The Department has two programs that support telecommunications projects.

Health Care Financing Administration's (HCFA) Research, Demonstration, and Evaluation projects are designed to support analyses, experiments, demonstrations, and pilot projects aimed at resolving major health care financing issues or developing innovative methods for the administration of Medicare and Medicaid. In 1994, HCFA identified a number of areas in which specific information or experience was needed to improve programs' effectiveness or guide decisions. These priority areas for discretionary cooperative agreements and/or grants were to be HCFA's guide for project selection in fiscal years 1994, 1995, and 1996, and included (1) access and quality of care; (2) managed care systems; (3) provider payments; (4) health care systems reform and financing; (5) program evaluation and analyses; (6) service delivery systems; and (7) subacute and long-term care. However, substantial cutbacks in discretionary funding for HCFA in fiscal years 1995 and 1996 resulted in only a few new awards in these areas in 1995 and none in 1996.

Types of assistance. Project grants or cooperative agreements.

Eligibility criteria. Grants or cooperative agreements may be made to private or public agencies or organizations, including state agencies that administer the Medicaid program. Private for-profit organizations may apply. Awards cannot be made directly to individuals.

Intended beneficiaries. Contributing retirees or specially entitled beneficiaries, which include those with disabilities, end-stage renal disease, and families receiving Medicaid benefits.

Funding levels. HCFA funded five telemedicine demonstration projects totaling $858,000 in fiscal year 1993, $4 million in fiscal year 1994, and $524,000 in fiscal year 1995. New telemedicine projects have not been funded since fiscal year 1994. The fiscal year 1995 funding was to begin a comprehensive evaluation of HCFA's previously awarded telemedicine demonstration projects.

Examples of funded projects. The program funded five telemedicine demonstration projects in 1993 and 1994. For example, in fiscal year 1993, the program provided about $700,000 to the Iowa Methodist Health System

for its telemedicine services in cardiology and pathology consultations. In fiscal year 1994, the program provided about $272,000 to East Carolina University to test a system of Medicare payments for telemedicine services involving two rural hospitals and a medical school affiliate.

Rural Telemedicine Grants support projects to demonstrate and collect information on the feasibility, costs, appropriateness, and acceptability of telemedicine for improving access to health services for rural residents and reducing the isolation of rural practitioners.

Types of assistance. Project grants.

Eligibility criteria. The grant recipient can be a public (nonfederal) or private nonprofit or for-profit entity, located in either a rural or urban area. The entity must be a health care provider and a member of a telemedicine network or a consortium of providers that are members of a telemedicine network.

Intended beneficiaries. Rural health care providers, patients, and rural communities benefit from this grant program.

Funding levels. The program received $4.6 million in fiscal year 1994, its first year, and $5 million in fiscal year 1995.

Examples of funded projects. For fiscal year 1994, the program granted 11 new awards. No new grants were made in fiscal year 1995 because of budget constraints. One project is the High Plains Rural Health Network in Fort Morgan, Colorado. This project is a consortium of hospitals, clinics, and physician practices in Colorado, Nebraska, and Kansas. Its telemedicine network will have two hub facilities serving two rural hospitals, two community health centers, and a long-term care facility. The network will have a videoconferencing system and an electronic bulletin board for ongoing communications among all network practitioners. Another project is the University of Kentucky's Medical Center's plan to provide specialty consultations to Berea Hospital (with 42 acute-care beds) and several clinics in rural Kentucky. The university hospital also will be linked with the Saint Claire Medical Center in Morehead, Kentucky, which will serve as a second hub site.

Department of Commerce

The Department sponsors two telecommunications projects under its National Telecommunications and Information Administration.

Public Telecommunications Facilities Planning and Construction Grants can be used to assist in the planning, acquisition, installation, and modernization of public telecommunications facilities, through planning grants and matching construction grants, in order to (1) extend the delivery of public telecommunications services to as many citizens of the United States and its territories as possible by the most efficient and economical means, including the use of broadcast and nonbroadcast technologies; (2) increase public telecommunications services and facilities available to, operated by, and owned by minorities and women; and (3) strengthen the capability of existing public television and radio stations to provide public telecommunications services to the public.

Types of Assistance. Project grants.

Funding levels. This program's funding was increased from $19.7 million in fiscal year 1991 to $27.7 million in fiscal year 1995.

Eligibility criteria. Several types of entities are eligible for these grants: (1) public or noncommercial educational broadcast stations; (2) noncommercial telecommunications entities; (3) systems of public telecommunications entities; (4) public or private nonprofit foundations, corporations, institutions, or associations organized primarily for educational or cultural purposes; and (5) state or local governments or agencies, including U.S. territories, federally recognized Indian tribal governments, or political or special purpose subdivisions of a state.

Intended beneficiaries. The general public and students benefit from the program.

Examples of funded projects. One project funded under this program is the construction of a new noncommercial radio station in Ada, Oklahoma, to provide the first public radio signal to 40,000 residents in southeastern Oklahoma. Another is the replacement of the transmission system, the remote control, and associated dissemination equipment for a public television station in Austin, Texas.

The Telecommunications and Information Infrastructure Assistance Program promotes the widespread use of advanced

telecommunications and information technologies in the public and nonprofit sectors.

Types of assistance. Project grants.

Funding levels. This program was initially funded in 1994. The program funded projects totaling $24.4 million in fiscal year 1994 and $36.0 million in fiscal year 1995.

Eligibility criteria. State and local governments, nonprofit health care providers, school districts, libraries, universities and colleges, public safety services, and other nonprofit entities.

Intended beneficiaries. The general public benefits from the program.

Examples of funded projects. One project involves a rural educational system in Washington State, serving a predominantly Native American population, that will build a systemwide voice, data, and video instructional network. This system will be connected to statewide educational and national information services. Another project is the Kansas State Corporation Commission's effort to develop a comprehensive, statewide telecommunications infrastructure plan that addresses the needs of business, health care, education, government, and the public.

National Science Foundation

The National Science Foundation (NSF) has two programs that support telecommunications projects.

Connections to the Internet is intended to encourage U.S. research and educational institutions to connect to the Internet. In March 1996, this program extended the Connections to the NSFNET program, which has been in place since 1990.

Types of assistance. Project grants.

Funding levels. The program's funding was $1.6 million in fiscal year 1991. Funding rose to $8.3 million in fiscal year 1993 and fell to $5.8 million in fiscal year 1995.

Eligibility criteria. Proposals may be submitted by any U.S. research or educational institution or consortium of such organizations as appropriate for connections categories: (1) connections utilizing innovative technologies for Internet access; (2) connections for institutions of higher education; and (3) connections for research and education institutions and facilities that have meritorious applications requiring high network bandwidth or other novel network attributes not readily available from commodity network service providers.

Intended beneficiaries. Students, faculty, and researchers at the connected schools.

Examples of funded projects. One example of a Connection to the Internet project is an NSF-funded connection of five community colleges in eastern New Mexico.

Networking Infrastructure for Education has as its goal building synergy between technology and education researchers and developers and implementers so that they can explore networking costs and benefits, test self-sustaining strategies, and develop a flexible educational networking infrastructure that will be instrumental in the dissemination, integration, and application of technologies to speed the pace of educational innovation and reform.

Types of assistance. Project grants or cooperative agreements.

Funding levels. NSF allocated $8.7 million to the program in fiscal year 1994, its first year, and $11.7 million in fiscal year 1995.

Eligibility criteria. Individual institutions or groups of institutions within the United States. Alliances of 2- and 4-year degree-granting academic institutions, school districts, professional societies, state agencies, public libraries, museums, and others concerned with educational reform. Business and industry participation, with cost-sharing consistent with their role, is required for demonstration, model site, testbed and infrastructure projects and encouraged for policy studies and research and development projects.

Intended beneficiaries. Elementary, secondary, and undergraduate science, mathematics, and engineering teachers and faculty; secondary, undergraduate students; public and private colleges (2-year and 4-year) and universities; state and local educational agencies; nonprofit and

private organizations; professional societies; science academies and centers; science museums and zoological parks; research laboratories; and other institutions with an educational mission.

Examples of funded projects. One project funded under this program is a Montana statewide coalition featuring partners from all public and private stakeholders, including the Statewide Systemic Initiative, to plan for the development of a lasting infrastructure that will support a variety of educational telecommunications services, paying particular attention to the special conditions in this largely rural state. Another project is a regional data network to connect schools, libraries, and community centers to individual households, the network itself, and the Internet.

Programs With Objectives Not Specific to Telecommunications

We also identified 15 multipurpose programs that do not have telecommunications projects as a specific objective but can fund such projects. While these programs have similar objectives—such as economic development, education, and health outreach—they do not specifically cite telecommunications as the means to accomplish their objectives. Table I.2 lists these programs.

Table I.2: Multipurpose Federal Programs That May Fund Telecommunications Projects in Rural Areas

Agency	Program name or service provided
U.S. Department of Agriculture	
Rural Business and Cooperative Development Service	Rural Economic Development Loans and Grants
Appalachian Regional Commission	Special Appalachian Regional Commission Initiatives
	Appalachian Area Development
Department of Education	
Office of Educational Research and Improvement	Library Research and Demonstrations Program
Office of Elementary and Secondary Education	Eisenhower Professional Development State Grants Program
Department of Commerce	
Economic Development Administration	Economic Development Grants for Public Works and Infrastructure Development
	Economic Development Technical Assistance Grants
	Planning Program for States and Urban Areas
National Institute of Standards and Technology	Advanced Technology Program
Department of Health and Human Services	
Office of Rural Health Policy	Rural Health Services Outreach
Department of Housing and Urban Development	Community Development Block Grants/State's Program
Small Business Administration	Small Business Loans
Tennessee Valley Authority	Economic Development Loan Fund
	Special Opportunity Counties Revolving Loan Fund
	Technical Assistance Program

Although these programs may fund many different kinds of projects, some have emphasized telecommunications technologies. For example, the Appalachian Regional Commission views telecommunications as crucial to Appalachia's economic development. Telecommunications technologies is one of three initiatives ARC has targeted for the region, along with civic development and preparing Appalachia for the global economy. The ARC Co-Chairman has pledged to ensure that "the 'information superhighway' not bypass Appalachia as the national highway system did some four decades ago."

U.S. Department of Agriculture

The Department has one program in its Rural Business and Cooperative Development Service that, while not specifically designed for telecommunications technologies, can be used for them.

Rural Economic Development Loans and Grants are designed to promote rural economic development and help create jobs, including funding for project feasibility studies, startup costs, incubator projects, and other reasonable expenses for the purpose of fostering rural development.

Types of assistance. Direct loans; project grants.

Funding levels. The program received $13.5 million in fiscal year 1994.

Eligibility criteria. Electric and telephone utilities that have current Rural Electrification Administration or Rural Telephone Bank loans or guarantees outstanding and are not delinquent on any federal debt or in bankruptcy proceedings may apply.

Intended beneficiaries. Rural communities and the general public benefit from this program.

Examples of funded projects. Program officials say the program has not funded telecommunications projects.

Appalachian Regional Commission

The Commission currently offers two programs that can be used for telecommunications projects. ARC receives only one appropriation each year for its assistance activities. All projects are funded from this "Area Development" allocation. Area Development funding has ranged from $39.5 million in fiscal year 1991 to $102.0 million in fiscal year 1995; only a small amount of this funding is used for telecommunications under the two programs discussed below.

Special ARC Initiatives have been funded during fiscal years 1995 and 1996 and are planned to be funded again in fiscal year 1997. The three special initiatives provide assistance for telecommunications, internationalization of the Appalachian region's economy, and local leadership and civic development. (Approximately $5 million to $6 million was set aside from the Area Development allocation for these three

initiatives in fiscal years 1995 and 1996, and a similar amount is anticipated for fiscal year 1997.)

Types of assistance. Project grants.

Funding levels. See description of Area Development funding, above.

Eligibility criteria. Multicounty organizations, state universities, community colleges, high schools, nonprofit organizations, and school boards.

Intended beneficiaries. Residents of the Appalachian region.

Examples of funded projects. Assisted with the strategic plan for the Multiregional Telecommunications Improvement Project in New York and the Western Maryland WMDNet Equipment Project, which connected universities, junior colleges, libraries, county governments, and health facilities.

Appalachian Area Development provides assistance for a variety of needs, including telecommunications projects. (See Special ARC Initiatives described above). On average, across the region, about $2.5 million to $3 million is annually provided for telecommunications-related projects from the overall Area Development funding allocation.

Types of assistance. Project grants.

Funding levels. See description of Area Development funding, above.

Eligibility criteria. Multicounty organizations, state universities, community colleges, high schools, nonprofit organizations, and school boards.

Intended beneficiaries. Residents of the Appalachian region.

Examples of funded projects. Assisted with the Elmore County (Alabama) Telecommunications Network Project (connecting high schools, junior colleges, businesses, and government offices) and the Greenville (South Carolina) Hospital Home Health Project.

Department of Commerce

The Department has four programs that can be used to support development of telecommunications projects.

Economic Development Grants for Public Works and Infrastructure Development, administered by the Economic Development Administration, are used to promote long-term economic development and assist in the construction of public works and development facilities needed to initiate and encourage the creation or retention of permanent jobs in the private sector in areas experiencing severe economic distress.

Types of assistance. Project grants.

Funding levels. The program's funding has ranged from $140.8 million in fiscal year 1991 to $195.0 million in fiscal year 1995.

Eligibility criteria. States, cities, counties, other political subdivisions, Indian tribes, the Federated States of Micronesia, the Republic of the Marshall Islands, commonwealths and territories of the U.S. flag, and private or public nonprofit organizations or associations representing a redevelopment area or a designated Economic Development Center are eligible to receive grants. Corporations and associations organized for profit are not eligible.

Intended beneficiaries. Local economies, unemployed and underemployed persons, and/or members of low-income families benefit from the program.

Examples of funded projects. These grants have supported infrastructure necessary for economic development (e.g., water/sewer facilities), the construction of incubator facilities, and port development and expansion. With respect to telecommunications, two rural community colleges in North Carolina received grant assistance to install two-way interactive telecommunications equipment that is used to provide training for underemployed and unemployed youths and adults.

Economic Development Technical Assistance, administered by the Economic Development Administration, provides funding to promote economic development and alleviate underemployment and unemployment in distressed areas. The program provides funds to enlist the resources of designated university centers in promoting economic development, support demonstration projects, disseminate information

and studies of economic development issues of national significance, and finance feasibility studies and other projects leading to local economic development.

Types of assistance. Project grants.

Funding levels. The program's funding increased from $6.6 million in fiscal year 1991 to $10.9 million in fiscal year 1995.

Eligibility criteria. Private or public nonprofit organizations, educational institutions, federally recognized Indian tribal governments, municipal, county or state governments, and U.S. territories or entities thereof.

Intended beneficiaries. Projects are intended to assist in solving economic development problems, respond to economic development opportunities, and expand organizational capacity for economic development.

Examples of funded projects. Management and technical assistance services to communities, counties, districts, nonprofit development groups; technology transfer assistance to firms; studies to determine the economic feasibility of various local development projects. An example of a recent telecommunications-related project involved providing grant assistance to rural communities in Colorado to improve the competitive stance of existing, emerging, and prospective businesses through Internet-based services.

Planning Program for States and Urban Areas, administered by the Economic Development Admin stration, is designed to assist economically distressed states, substate planning regions, cities, and urban counties to undertake significant new economic development planning, policymaking, and implementation efforts. (Rural areas are included in this program).

Types of assistance. Project grants.

Funding levels. The program's funding has remained fairly stable over the past 5 years, ranging from $4.7 million in fiscal year 1991 to $4.5 million in fiscal year 1995.

Eligibility criteria. Eligible applicants include states, substate planning units, cities, urban counties within metropolitan statistical areas, and combinations of these entities.

Intended beneficiaries. Residents of eligible areas.

Examples of funded projects. The state of Alabama received a grant in 1994 that drew on computer technology to assist high school students in rural areas, as well as the unemployed and underemployed, in getting job training that would enhance their ability to obtain employment. The New River Valley Planning Development Council, in Radford, Virginia, received a grant in 1994 that uses telecommunications technology to link Southwest Virginia to areas that are more industrially developed.

Advanced Technology Program, administered by the National Institute of Standards and Technology, is designed to promote "commercializing new scientific discoveries and technologies rapidly" and "refining manufacturing practices" through supporting high-risk civilian technologies that are in the nation's economic interest.

Types of assistance. Project grants (cooperative agreements).

Funding levels. The program's funding increased steadily between fiscal years 1991 and 1995, from $35.9 million to $341.9 million.

Eligibility criteria. Recipients must be U.S. businesses or joint research and development ventures. Foreign-owned businesses are eligible, if they meet the requirements of the American Technology Preeminence Act of 1991 (P.L. 102-245, Feb. 2, 1992).

Intended beneficiaries. U.S. businesses and U.S. joint research and development ventures. Foreign-owned businesses, if they meet the requirements of P.L. 102-245.

Examples of funded projects. Printed wiring board manufacturing technology, flat panel display manufacturing, magnetoresistive random access memories, and ultra-high-density magnetic recording heads.

Department of Education

The Department has two programs that can be used to support telecommunications projects.

The Library Research and Demonstrations Program has as its objective the awarding of grants and contracts for research and/or demonstration projects in areas of specialized services intended to

improve library and information science practices. Among other things, the program may fund the use of new technologies to enhance library services.

Types of assistance. Project grants.

Funding levels. Funds increased from $325,000 in fiscal year 1991 to $6.5 million in fiscal year 1995.

Eligibility criteria. Institutions of higher learning or public or private agencies, institutions, or organizations are eligible.

Intended beneficiaries. Institutions of higher learning or public or private agencies, institutions, or organizations are the beneficiaries.

Examples of funded projects. Since fiscal year 1993, funds have been used to establish statewide multitype library networks. For example, in fiscal year 1993, Louisiana State University and Agricultural and Mechanical College was awarded a $2.5 million grant to expand its electronic library network to connect libraries around the state. Other grant recipients for the same purpose are the Colorado Department of Education's State Library and Adult Education Office (fiscal year 1994, $2.5 million); State Library of Iowa (fiscal year 1995, $2.5 million); and West Virginia Library Commission, Department of Education and the Arts (fiscal year 1995, $2.5 million). Each project is making its databases available to all types of libraries throughout the state. In Iowa, the State University Extension Service is also participating in the project to coordinate information resources.

The Eisenhower Professional Development Program is designed to give teachers, administrators, and other school personnel access to high-quality, sustained, and intensive professional development activities in the core academic subjects aligned to challenging state content and student performance standards.

Types of assistance. Formula grants.

Funding levels. $251.3 million in fiscal year 1995.

Eligibility criteria. Funds are distributed to the states on a formula basis. Of the total state allocation, the SEA receives 84 percent and the state agency for higher education, 16 percent. The SEA distributes, by formula, at

least 90 percent of the funds that it receives to LEAs within the state. The state agency for higher education distributes at least 95 percent of its allocation in the form of competitive subgrants to institutions of higher education and nonprofit organizations.

Intended beneficiaries. Teachers, administrators, and other school personnel are direct beneficiaries, and as a result of these populations' participating in professional development, students are indirect beneficiaries.

Examples of funded projects. One project supported through this program is "Geometry Enhancement Models Institute: Meeting the Challenge of Mathematics Education," funded through the University of Memphis, which is to be conducted during the summer of 1996. The Institute is planned for 20 middle school in-service teachers to acquaint participants with the van Hiele theory of geometry through interactive, hands-on participation drawing on a number of instructional methods.

Department of Health and Human Services

The Department has one program that can be used for telecommunications projects.

Rural Health Services Outreach is intended to provide health services to rural populations that are not receiving them and to help rural communities and health care providers coordinate their services and enhance linkages, integration, and cooperation among rural providers of health services.

Types of assistance. Project grants.

Funding levels. Funds for telemedicine projects have increased from $220,000 in fiscal year 1991 to $1.7 million in fiscal year 1995.

Eligibility criteria. Nonprofit public or private entities located in nonmetropolitan statistical areas or a rural area within a larger metropolitan statistical area may apply.

Intended beneficiaries. Medically underserved populations in rural areas will receive expanded services.

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Examples of funded projects. The program funded eight new telemedicine projects in fiscal years 1994 and 1995. For example, the program provided assistance to Douglas County Hospital in Alexandria, Minnesota, to develop an advanced telemedicine network to serve eight rural communities in central Minnesota. The network's goal is to reduce the isolation of rural health care providers and to enhance access to specialized medical services. For another project, the program provided a total of $306,000 to Big Bend Regional Medical Center of Alpine, Texas, over 3 years to use telemedicine to offer primary care and health education services to the underserved population of Presidio, Texas. A telecommunications system is being set up in the town to link it with Big Bend Medical Center in Alpine and the Texas Tech Health Sciences Center.

Department of Housing and Urban Development

The Department administers one program that can be used to support telecommunications projects.

Community Development Block Grants/State's Program has as its primary objective the development of viable communities by providing decent housing, and a suitable living environment and expanding economic opportunities, principally for persons of low and moderate income.

Types of assistance. Formula grants.

Funding levels. Total funding levels for the program were $1.0 billion in fiscal year 1992, $1.2 billion in fiscal year 1993, $1.3 billion in fiscal year 1994, and $1.3 billion in fiscal year 1995.

Eligibility criteria. State governments receive funding according to a formula; funds are then provided through the state to eligible units of general local government. Eligible units of general local government are generally cities with populations of 50,000 or less that are not designated central cities of metropolitan statistical areas, and counties with populations of 200,000 or less. Forty-eight states and Puerto Rico participate in the state Community Development Block Grant program.

Intended beneficiaries. Low- to moderate-income persons.

Examples of funded projects. No telecommunications-related projects have as yet been completed by this program, according to program officials. One project—a telemedicine project linking 45 rural clinics to larger hospitals in Oklahoma—is being pursued at this time.

Small Business Administration

We identified one program that can be used for telecommunications projects.

Small Business Loans (7(a) Loans) are guaranteed loans to small businesses that are unable to obtain financing in the private credit marketplace but that can demonstrate the ability to repay the loans granted. This program can also provide guaranteed loan assistance to low-income business owners or businesses located in areas of high unemployment or to specific types of businesses, such as those owned by handicapped individuals.

Types of assistance. Guaranteed/insured loans.

Funding levels. In fiscal year 1992, loans totaling $6.0 billion were guaranteed. In fiscal year 1995, guaranteed loans totaled $8.3 billion.

Eligibility criteria. Small businesses that are independently owned and operated and not dominant in their field are eligible; businesses must also meet specific criteria for size, depending on the industry.

Intended beneficiaries. Small businesses, including those owned by low-income and handicapped individuals, or located in high unemployment areas benefit from the program.

Examples of funded projects. With respect to telecommunications-related loans, the Small Business Administration has assisted small businesses that provide telecommunications-related services such as paging services and cellular telephone services.

Tennessee Valley Authority

The Tennessee Valley Authority (TVA) has three programs to support telecommunications.

The Economic Development Loan Fund was established to stimulate industrial development and leverage capital investment in TVA's power service area. Specifically, the fund is used to promote economic expansion, encourage job creation, and foster the increased sale of electricity by TVA and its power distributors.

Types of assistance. Direct loans.

Funding levels. This revolving loan fund was initially funded in fiscal year 1995 with $20 million from power revenues.

Eligibility criteria. Projects are sponsored by a local government, power distributor, or established economic development organization. Loans are made to TVA power customers, communities or nonprofit economic development corporations to support approved projects.

Intended beneficiaries. The ultimate beneficiaries are the people of the Tennessee Valley region.

Examples of funded projects. As of November 1995, this program had not funded any telecommunications projects.

The Special Opportunity Counties Revolving Loan Fund is designed to stimulate economic development and private sector job growth in the most economically disadvantaged counties in the Tennessee Valley.

Types of assistance. Direct loans.

Funding levels. This revolving loan fund was funded with a $14 million allocation from TVA's appropriations for fiscal years 1981 through 1987.

Eligibility criteria. Per capita personal income and percent of persons below the poverty level were the two variables used to determine which of the 201 Tennessee Valley counties were eligible for the program. First, the 100 counties with the lowest per capita personal income were chosen. Then, the 50 counties with the highest percent of persons below the poverty level were considered to be eligible for the program.

Intended beneficiaries. The ultimate beneficiaries are the people of the Tennessee Valley region.

Examples of funded projects. One project is an interactive television network, a two-way interactive television network, in the Upper Cumberland area of Tennessee. The network provides full motion, multisite, multichannel simultaneous two-way interactive communication capabilities.

The Technical Assistance Program invests in economic development to increase the production of goods and services and generate a higher standard of living for all citizens of the Tennessee Valley Region.

Types of assistance. Advisory services, counseling, architectural and engineering studies, and the dissemination of economic information. Investments in the research, development, and implementation of a regional small business incubator network.

Funding levels. Funding for this program includes salaries and expenses. Fiscal year 1991 funding was $21.2 million. Funding dropped to $18 million in fiscal year 1994, but rose to $22.5 million in fiscal year 1995.

Eligibility criteria. Within the Tennessee Valley, officers and agencies of state, county, and municipal governments; quasi-public agencies; and private organizations, individuals, and business firms and associations may seek technical advice and assistance in community resource development.

Intended beneficiaries. The ultimate beneficiaries are the people of the Tennessee Valley region.

Examples of funded projects. TVA's technical services include architectural/engineering, economic research and forecasting, information services support, environmental coordination, and project management.

Detailed Description of Five Telecommunications Projects in Rural Areas

We visited five telecommunications projects—two economic development projects, one distance learning project, and one medical link project. These projects are funded in part with federal moneys. In addition, we visited a borrower of the Rural Utilities Service's Telephone Bank Loan program. The results of those visits are summarized below.

The Paducah Information Age Park

The Paducah Information Age Park, located in Paducah, Kentucky, includes 650 acres, with 360 acres planned for development. The park is designed for companies that heavily utilize telecommunications and telecommunications-related research and development. Typically, such companies move volumes of information: data processing companies, reservation businesses, credit card companies, payroll centers, and catalog companies. The park provides a fiber optic system that supports high-quality video conferencing, Lan-to-Lan internetworking, and multimedia communications. The park also includes an on-site digital switching center, which provides a network-based Automatic Call Distributor and Integrated Services Digital Network as well as other state-of-the-art capabilities. The mission of the park is to create economic growth for the region.

The Chief Executive Officer and Chairman of the Greater Paducah Economic Development Council (GPEDC) said that, by the early 1980s, the Paducah area's economy had stagnated. Community leaders recognized that new development opportunities were needed. Toward this end, they created GPEDC in 1989. GPEDC first became interested in the feasibility of an information age park in Paducah after an official attended a telecommunications conference in 1989 that was sponsored by a carrier. In 1990, GPEDC formally requested the carrier to identify and quantify the potential economic benefits of "developing an information age park for use as a resource in recruiting information-intensive, high-technology industries." In March 1991, the carrier contracted for a study to help determine whether information age business parks might be economically feasible in nonmetropolitan areas such as Paducah, Kentucky. The contractor subsequently determined that Paducah/McCracken County would be a suitable location for such a park.

The park officially opened in May 1994. According to GPEDC officials, it will be 12 to 15 years before it is fully developed. The contractor determined that the park could have an economic impact on the area of $100 million to $300 million, an estimate based on adding between 2,500 to 7,500 jobs in two information age parks and the multiplier effects of that employment.

As of November 1995, four sites were sold, options to buy were held on three more, and one 12,000- to 15,000-square-foot speculative building is planned.

GPEDC officials said that local government entities set aside jurisdictional questions to commit themselves to the park's ability to provide high-quality services at the lowest possible cost. The city of Paducah has annexed the park because the city can most economically extend public services like water, sewer, and police and fire protection. Officials of McCracken County, in which the project is located, agreed to forgo the tax revenues from the park itself, confident that countywide growth will more than compensate for any short-term revenue losses.

Paducah community leaders see the park's creation as validating their commitment to the "partnering" of various private, public, local and state organizations. The Chief Executive Officer and Chairman of GPEDC is not aware of any case in which an organization that was asked to be a partner in the project declined to participate. According to GPEDC officials, the park has benefits beyond new jobs for the region. Residents have a positive attitude about the economic potential of the community, and new ways of approaching economic development are being considered, such as development involving advanced telecommunications technologies.

GPEDC officials said that the total cost of the project is just over $21 million. According to GPEDC officials, a carrier invested $6 million in the project, including building a central office in the park. Additionally, TVA provided over $1.8 million in financial and technical assistance towards the development of the park. GPEDC officials said the Commonwealth of Kentucky created a $6.2 million package of combined grants/loans for infrastructure, the conversion of a wetlands area into a lake, and the partial construction of the Resource Center. Public and private local investments total almost $6.7 million and GPEDC officials said the council itself provided $300,000.

The Mayfield Rural Telecommunications Resource Center

The Purchase Area Development District (PADD), an economic development district serving eight western Kentucky counties, created the Rural Telecommunications Resource Center to serve both public agencies and businesses in its service area in an effort to promote economic development using advanced telecommunications. The resource center is located in Mayfield, Kentucky, in Graves County, and has two conference rooms, encompassing 4,000 square feet of the 15,000-square-foot PADD

office complex. The resource center, which officially began operations in October 1995 has advanced teleconferencing capability, including equipment to make live interactive presentations. Additionally, the resource center has a satellite downlink and a graphical information system, a data tool for analyzing and displaying geographically related information. PADD officials said that the resource center has access to other Kentucky networks and that, ultimately, the center will have direct Internet access.

PADD officials expect several benefits, including (1) increased training opportunities for employees of area businesses because of reduced travel costs and time, (2) improved communications between plant managers and their company headquarters and reduced travel costs for these executives, (3) improved business access to customers and suppliers, and (4) improved communication with state regulators and other officials in Frankfort, Kentucky. PADD officials believe that these benefits will enable businesses in their area to become more productive and therefore more competitive in the global economy. Furthermore, PADD officials expect the resource center to be a demonstration project that spawns additional interest in the economic development potential of telecommunications in the PADD area.

PADD officials became interested in telecommunications as a tool for business and economic development in 1989. In October 1990, the Development District held the region's first seminar on the telecommunications technology available for all types and sizes of businesses. Over the years, PADD has worked with groups such as South Central Bell, the West Kentucky Private Industry Council, and the University of Louisville Telecommunications Research Center to assist area businesses and industries to become better informed about the changing trends in communications and information technology. In 1994, PADD asked over 450 regional businesses and industries about their need for advanced telecommunications capability.

To obtain funding for the resource center, PADD officials contacted the Economic Development Administration (EDA) in January 1992. PADD officials said that in February 1992, their agent, the Jackson Purchase Local Officials Organization, in partnership with Murray State, applied for an EDA public works grant. According to PADD officials, that application requested funding for the Rural Telecommunications Resource Center, as well as for linkages between each county and a districtwide economic and information database that PADD maintains. The total cost of the project was

estimated at $572,679, with EDA providing a grant of $343,362, Murray State providing "in-kind" equipment valued at $168,907, and the Jackson Purchase Local Officials Organization providing $60,000. However, PADD officials said that EDA turned down the request in the spring of 1992 because it was not the type of project EDA normally funded. According to an EDA representative in Washington, D.C., as well as EDA's Kentucky state representative, when the application was submitted, EDA generally was unfamiliar with the economic development potential of telecommunications projects. Traditionally, projects funded under the public works program have been for infrastructure items such as water or sewer systems for industrial parks.

PADD officials said that EDA subsequently reconsidered the application, and following the visit of an EDA representative from Washington, D.C., in March 1993, PADD officials reworked and resubmitted the application. It was approved in September 1994. The approved project totaled $658,158. EDA supplied a grant of $451,236, Murray State provided $191,922 in "in-kind" equipment, and the Jackson Purchase Local Officials Organization contributed $15,000 in cash. Also, district officials said that they received a $25,000 technical assistance grant from EDA in September 1994 to help fund a full-time PADD position to assist in facilities operation.

RODEONET

RODEONET, which began operations in 1992, is a mental health telemedicine project using advanced telecommunications technologies, such as two-way video teleconferencing, to provide selected mental health services and professional development opportunities to consumers and mental health professionals in 13 rural counties in eastern Oregon, an area of about 45,000 square miles.[8] In 1995, the service was expanded to include one site in southern Oregon and three sites on the northwest Oregon coast. RODEONET's services include consultation/evaluation, preadmission and predischarge interviews, medication management, and staff training and demonstrations. The Eastern Oregon Human Services Consortium, a consortium of community mental health programs, operates RODEONET, using the telecommunications facilities of Oregon's educational network (ED-NET).

The size of the eastern Oregon service area, the location of the state's two public psychiatric hospitals, and Oregon's laws regarding hearings and

[8]The 13 counties in the Eastern Oregon Human Services Consortium are Baker, Gilliam, Grant, Harney, Hood River, Malheur, Morrow, Sherman, Umatilla, Union, Wasco and Wheeler.

admissions to state mental health facilities make a project such as RODEONET a practical way of providing some mental health services to residents and training for mental health professionals in Eastern Oregon. The precommitment service, for example, operates in the following manner. If a mental health professional believes that a patient is a danger to himself or others, the mental health professional can have the patient transported to a mental health hospital and held. Oregon has two public psychiatric hospitals—one in northeast Oregon and one in western Oregon. For many rural communities in the extreme eastern and southern parts of Oregon, this often means a trip of hundreds of miles. During periods of inclement weather, the trip can be dangerous. Furthermore, consortium officials said that Oregon law requires that the patient be given a precommitment hearing within 72 hours or released, and the hearing must be presided over by a judge in the county in which the patient lives. If the patient is committed, a total of three long, costly, and frequently hazardous trips to court and to a psychiatric hospital will be made within a few days. When appropriate, two of the three trips can be avoided if video teleconferencing is used in lieu of face-to-face meetings.

Recognizing the potential for reducing training and travel costs and the scarcity of mental health services in many rural communities, the consortium began planning a telemedicine project. In May 1991, it applied for funding from the Department of Health and Human Service's Office of Rural Health Policy and was subsequently awarded a 3-year Rural Health Outreach demonstration grant. From October 1991 to September 1994, the grant provided over $800,000 of the project's estimated $1.3 million cost for that 3-year period. RODEONET has been self sustaining since September 1994, and users are now required to pay their own satellite and access charges. RODEONET member institutions or agencies are now charged $145 per hour for video teleconferencing, with another $20 per hour for each additional site.

All of the officials with whom we spoke, including officials from the Office of Rural Health Policy, consider the project a success and believe that there is increased potential for using advanced telecommunications to provide mental health services. RODEONET officials told us that a major factor contributing to the success of the project was that the 13 eastern Oregon counties that are partners in RODEONET had a long history of collaboration on providing mental health services in their nearly 45,000-square-mile service area. Officials stressed that without this long history of collaboration, successful completion of the project would not have been possible.

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The Spokane, Washington, STEP/Star Network

The Satellite Telecommunications Educational Programming/Pacific Star Schools Partnership (STEP/StarNetwork) is a satellite-based K-12 distance learning network. Educational Service District (ESD) 101, a state-chartered regional agency located in Spokane, Washington, operates the STEP/Star Network. STEP/Star Network offerings include full-credit traditional courses in subjects such as foreign languages, mathematics, science, and vocational education. The network also offers innovative courses such as Young Astronauts, a course for fourth to sixth graders using space themes to teach math and science. The courses ESD 101 broadcasts over the STEP/Star Network include those developed by or for the district as well as those developed by other distance education providers. Through the STEP/Star Network, ESD 101 also offers a variety of other services for educators, school administrators, parents, and community leaders, including in-service workshops for college credit, teleconferencing, and parenting classes. ESD 101's programming serves 31,500 students and 43,000 teachers located in 31 states and six time zones. Nearly 90 percent of the participating schools are in rural areas, and the average Star school is about 80 miles from the nearest university or college.

The network's principal customers are the remote or rural school districts in Alaska, Hawaii, Idaho, Montana, Oregon, and Washington State, and the Colorado and the Central Indiana educational service districts. The network is now expanding into the Pacific territories. The programming is broadcast live from ESD 101's television studios via satellite uplink. Student and teacher interaction is achieved through a combination of two-way audio, one-way video, and two-way data transmission. Where possible, students' papers and tests are submitted to instructors electronically. According to district officials, some instructors are developing tests that their students will be able to take on-line.

Participating school districts pay an annual membership fee of $2,950 for basic services for a single site. Each additional site is $150. The membership fee includes the startup equipment needed to interface with the network (e.g., satellite dishes, computers, modems, and scanners). Some courses require the students to use computers. The participating school district is responsible for providing this equipment. The equipment ESD 101 provides for interface with the STEP/StarNetwork remains the property of ESD 101 and is retrieved from a district that discontinues its participation. Participating school districts are charged varying fees for the K-12 courses they use. For example, Elementary Spanish for grades 1 and 2 costs a flat $500 per site, but Advanced Placement English costs $490 for a maximum of seven students, with each additional student costing $175.

ESD 101 officials said that the original STEP distance education network, which began operating in the district's service area in 1986, was started because some farsighted school and community officials saw a need to provide educational offerings that the district's schools would be unable to provide otherwise. They also said that the formation of the first Star program in the five original northwestern states was greatly assisted by the fact that these states had a long history of collaboration and partnerships on regional projects, and that partnership and collaboration has been key to the STEP/Star Network's subsequent expansion.

Since 1990, ESD 101, on behalf of its STEP/Star partners, has been awarded three successive 2-year Star Schools grants totaling $21.3 million from the Department of Education. These grants have enabled ESD 101 to (1) expand course offerings beyond those initially offered in STEP/Star and (2) expand the area it serves. The first grant totaled about $9.9 million for September 1990 to September 1992. The second grant totaled about $5.2 million for October 1992 to September 1994. The third grant totaled about $6.2 million for October 1994 through September 1996.

As significant as ESD 101's funding from the Star Schools Program has been, it does not represent all of the District's funding. According to the District's superintendent and the District's annual financial report for the fiscal year ending August 1994, the agency's total annual operating budget is about $40 million, with about $13.1 million in revenues coming from all sources. Of that amount, only about $3.6 million was from federal sources, and the balance was from local, state, and cooperative programs; payments for other programs; and investment earnings. Amounts from local sources included $1.7 million in tuition and fees and about $331,000 from sales of goods, supplies, and other services. Funds received from the state included an ESD allotment of about $685,000 and $100,700 for traffic safety education. Amounts from federal sources other than STEP/Star Schools included $420,400 for the Job Training Partnership's payments for a program it operates for the city of Spokane.

The Ringgold, Georgia, Telephone Company

The Ringgold Telephone Company began operations in 1912 in Ringgold, Georgia, to serve the citizens of Catoosa County, located in extreme north Georgia. In 1958, Ringgold applied for and received a loan from the Rural Electrification Administration (subsequently organized as a part of RUS). The loan was needed for capital improvements and expansion to keep up with the growth in demand. Today, Ringgold services 11,000 lines, and its

equipment includes digital switching gear and 100 miles of fiber-optic lines.

According to the company's executive vice president, if telecommunications is inadequate in any rural area, development of that area will suffer. He said that businesses usually ask about the transmission speed and band width capabilities of the phone system before deciding to locate in the area. He also said that his company works closely with its customers, the Catoosa County Chamber of Commerce, and the Economic Development Commission, which assists rural areas in north Georgia with development planning. He said that forming such partnerships and establishing such plans is an integral part of achieving projects' success.

The executive vice president told us that although he works actively on long-term county planning, he is aware of only two federal programs for telecommunications. He said that the RUS loans have made it possible for the company to provide its customers with advanced technologies. He considers RUS' requirement that its borrowers maintain a 5-year telecommunications plan a very positive factor.

Organizations Representing Rural Areas

National Rural Development Partnership

The National Rural Development Partnership, created in 1991, has as its objective the promotion of (1) innovative and strategic approaches to rural development and (2) collaboration among federal and state agencies involved in rural development. It also helps identify and resolve intergovernmental and interagency impediments. The partnership's members are drawn from federal agencies involved in rural development, the 39 State Rural Development Councils, and national rural organizations.

National Association of Development Organizations

The goals of the National Association of Development Organizations are to (1) promote economic development, focusing primarily on rural areas and small towns; (2) serve as a forum for communication and education; and (3) provide technical assistance to its members. Founded in 1967, the organization has more than 300 members drawn primarily from multicounty planning and development agencies.

Organization for the Protection and Advancement of Small Telephone Companies

The Organization for the Protection and Advancement of Small Telephone Companies is a national trade association of nearly 450 small independently owned and operated local exchange carriers serving more than 2 million subscribers in the rural United States. Founded in 1963, the organization represents small independent telephone companies before the Congress and provides a forum for the exchange of ideas and a discussion of mutual problems.

National Association of Regional Councils

The National Association of Regional Councils has as its members regional planning agencies, councils of government, and development districts. The association was founded in 1967 and has about 230 members. It provides legislative representation in Washington, D.C., and technical assistance to its members through workshops and training programs.

National Governors Association

The National Governors Association represents governors at the national level to inform the federal government of the needs and views of the states. The association also provides technical assistance to the governors and serves as a vehicle for sharing information. Founded in 1908, the association has 55 members, including the governors of the 50 states and representatives from Guam, American Samoa, the U.S. Virgin Islands, the Northern Mariana Islands, and the Commonwealth of Puerto Rico.

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